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PATENT SPECIFICATION



Application Date: Nov. 22, 1932. No. 32,985/32.

410,789

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PROVISIONAL SPECIFICATION.

Improvements in or relating to Garments.

I, HENRY BEACROFT, of 14, Mansfield Grove, Peel Street, Nottingham, a British Subject, do hereby declare the nature of this invention to be as follows:—

- 5 This invention is for improvements in or relating to garments and is particularly, but not exclusively, concerned with knickers, pants and similar garments constructed from knitted fabric or fabrics
- 10 having like properties of elasticity in the manner described in co-pending Patent Application No. 32,984/32. In knickers and like garments, it is usual to insert at the top and front of the body
- 15 portion, immediately below the waist-line, a yoke which frequently extends substantially from hip to hip and is known as a hip yoke. The chief object
- 20 of the present invention is to improve the fitting of such garments, by means of a new arrangement of hip yoke or yokes, so that there shall be no suggestion of bagginess and no tendency to wrinkle at this part. Broadly speaking,
- 25 this effect is achieved by utilising a hip yoke or yokes to gather the garment in at the front and/or the back. More specifically, the yoke or each of same may be fitted into a similarly shaped aperture
- 30 of less area or width in the garment, and a convenient shape for the yoke and its aperture is an approximately pentagonal figure having the top edge coinciding with the waist-line of the garment and
- 35 having one of its corners pointing downwards at the centre, the top edge and the two side edges which converge to the bottom centre being preferably longer than the two remaining sides of the
- 40 pentagon. The top edge, however, is not necessarily straight, for improved results are obtained if it is slightly concave or V-shaped, and the fit is also improved if the two comparatively short side-edges
- 45 adjoining said top edge converge slightly in the upward direction so that the garment has a small waist-line but gives the necessary room over the hips.

For example, in a preferred construction the garment is, as described in the aforementioned co-pending Application, constructed in the main from two portions of knitted fabric which are cut from the

piece on the bias, that is to say at an angle or angles other than a right angle to the wales, which portions are subsequently seamed together up the back and front of the body and up the inside of the legs. The wales, therefore, run at an angle to the seams and said wales also meet at an angle to each other at the seams so that the garment is capable of stretching in all directions. The distinctive feature of the present invention, however, resides in the arrangement of hip yoke and the manner of fitting same in the garment. Considering now the fitting of a front yoke only, to accommodate the yoke the two main portions comprising the garment are so cut, by means of a pattern, as to leave in front, at the waist-line, a pentagonal opening having one corner at the bottom and two edges which diverge upwardly therefrom with easy curves towards the hips and there blend each into a substantially vertical side edge which runs up to the waistline. These two last mentioned edges, however, are not absolutely vertical but preferably converge slightly as they approach the waist-line. The yoke is constituted by a panel of a shape similar to but of smaller area than the said opening, said panel being cut from the knitted piece fabric, with the wales running upwardly, and being sewn into the aperture provided for it in the garment with the result that because of the difference in area between the aperture and the panel or yoke inserted therein the garment is gathered in at the region of the waist-line to give a smooth close fit without any wrinkles or gores. This effect is materially assisted by cutting the downwardly converging edges of the panel and opening with varying curves so as to give varying degrees of bias and also by making the two comparatively short edges, which lie adjacent to the hips, convergent because a garment with a small waist-line but giving adequate freedom over the hips is thereby produced, and it is also of advantage if the top edge of the yoke, which coincides with the waist-line, is made slightly concave or V-shaped because this construction obviates any

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tendency towards the formation of wrinkles across the front of the garment.

If a hip yoke is fitted at both front and back of the garment, the two openings for accommodating same are preferably of approximately triangular or V-shape; each being of course somewhat greater in area than the yoke portion to be gathered therein. In such construction the two

comparatively shorter edges adjoining the top edge of one pentagonal yoke panel are seamed to the corresponding two shorter edges of the other panel at each side of the garment. 10

Dated this 21st day of November, 1932.

ERIC POTTER,
Chartered Patent Agent,
Nottingham and London.

COMPLETE SPECIFICATION.

Improvements in or relating to Garments.

15 I, HENRY BEACROFT, of 14, Mansfield Grove, Peel Street, Nottingham, a British Subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is for improvements in or relating to garments and is particularly, but not exclusively, concerned with 25 knickers, pants and similar garments constructed from knitted fabric or fabrics having like properties of elasticity in the manner described in co-pending Patent Application No. 32,984/32, which application describes and claims a knicker garment composed of portions of knitted fabric cut from the piece and seamed 30 together at their cut edges up the inside of the legs to the crotch and from the crotch up the front and rear of the body part with the wales extending substantially longitudinally of the garment, in which garment the cut edges thus seamed together are of concave form whereby the 40 wales are caused to converge and meet at the said seams and the angle of convergence varies progressively along the length thereof. In knickers and like garments, it is usual to insert at the top and 45 front of the body portion, immediately below the waist-line, a yoke which frequently extends substantially from hip to hip and is known as a hip yoke. The chief object of the present invention is to improve the fitting of such garments, 50 by means of a new arrangement of hip yoke or yokes, so that there shall be no suggestion of bagginess and no tendency to wrinkle at this part.

55 This invention therefore provides a knicker garment or the like having an inserted hip yoke which is fitted into a similarly or correspondingly shaped aperture, of less area or width, in the body of the garment, which yoke preferably 60 has upwardly divergent bottom edges. It is believed that the best shape for the yoke (and of course of the aperture in which it is fitted) is that, approximately,

of a pentagon having a top edge near or coinciding with the waist-line of the garment and an opposed corner pointing centrally downward. In a yoke of this shape, it is preferred that the top edge, and the bottom edges which converge to the said corner or point, shall be longer 70 than the two remaining side edges.

The top edge of the yoke, however, is not necessarily straight, for improved results are obtained if it is slightly concave or V-shaped, and the fit is also improved if the two comparatively short side-edges adjoining said top edge converge slightly in the upward direction so that the garment has a small waist-line 80 but gives the necessary room over the hips.

In order that this invention may be better understood a preferred construction of knicker garment will now be described 85 in detail by way of example, with reference to the accompanying drawing, in which:—

Figure 1 is a view of the garment.

Figures 2, 3 and 4 are views, respectively, of the two main component portions of the garment, of the yoke, and of 90 reinforcements for the crotch, and may be considered as illustrating the patterns by which such garment parts may be cut 95 from fabric in the piece, while

Figure 5 is an interior view of the crotch, showing the reinforcement.

Throughout this description like reference numerals indicate like parts. 100

In the construction illustrated the garment is constructed in the main from two similar portions 10A, 10B of knitted fabric, one right hand and the other left hand, which are cut from the piece on the bias. The said portions are preferably cut as shown on a varying bias (as is described in the aforesaid co-pending application), that is to say in an oblique curve across the wales, the edges 11a, 12a, 13a of which portions are subsequently 105 seamed together up the back and front of the body (seams 11 and 12) and up the inside of the legs (seams 13). The wales, 110

which are indicated by shading in Figure 2, therefore, run at an angle to the seams and said wales also meet at an angle to each other at the seams so that the garment is capable of stretching in all directions. The distinctive feature of the present invention, however, resides in the arrangement of the hip yoke and the manner of fitting same in the garment.

Considering now the fitting of a front yoke 15 only, to accommodate the yoke the two main portions 10A, 10B comprising the garment are so cut along their edges 17b, by means of a pattern, as to leave in front, at the waist-line, when they are seamed together a pentagonal opening having one corner at the bottom and two edges which diverge upwardly therefrom with easy curves towards the hips and there blend each into a substantially vertical side edge which runs up to the waistline. These two last mentioned edges, however, are not absolutely vertical but preferably diverge slightly as they approach the waist-line. The yoke 15 is constituted by a panel of a shape in the main similar to but of smaller area than the said opening, said panel being cut from the knitted piece fabric, with the wales running upwardly, and being sewn along seams 17, and 20 into the aperture provided for it in the garment with the result that because of the difference in area between the aperture and the panel or yoke inserted therein the garment is gathered in at the region of the waist-line 21 to give a smooth close fit without any wrinkles or gores. This effect is materially assisted by cutting the downwardly converging edges 17a and 17b of the panel and of the opening with varying curves so as to give varying degrees of bias and also by making the two comparatively short edges 20a of the panel, which in the finished garment lie adjacent to the hips, convergent because the production of a garment with a small waist-line but giving adequate freedom over the hips is thereby facilitated.

It may here be pointed out that while the shape of the yoke panel 15 and of the opening provided for it are in the main similar, as is clearly shown by contrasting the cut edge 17b of the part 10A in Figure 2 with the dotted line 17a, 20a, that has been placed near it to indicate the outline of the cooperating edge of the panel 15, yet said shapes are not absolutely identical, because the edge 17a of the yoke panel tapers to a more acute point than does the corresponding edge of the aperture, and while the upper side edge 20a of the panel 15 converges towards the centre line of the panel the

corresponding part of the edge 17a diverges from said centre line. The distortion or progressive drawing together of the opposed edges of the aperture, when the yoke is seamed into position, assists in producing a small, close fitting, waist part in the garment, as will be understood.

It is also of advantage if the top edge 21a of the yoke panel 15, which in the finished garment coincides with the waist-line 21 is made slightly concave or V-shaped because this construction obviates any tendency towards the formation of wrinkles across the front of the garment.

If a hip yoke is fitted at both the front and back of the garment, the two openings for accommodating it are preferably both as hereinbefore described.

It has been found that a garment of excellent fit is formed if each of the two main portions 10A, 10B comprising it is cut on a concave bias from the peak 14 of the seat to approximately seven inches up the back (see the edge 11a, Figure 2) and also from the peak of the seat to approximately five inches down the leg with a varying bias continuing and terminating with a constant bias (see the edge 13a in Figure 2). Similar bias is provided at the front, but preferably the curvature at that edge 12a which in the finished garment is seamed at the front of the body is rather more severe, i.e. of smaller radius than the curvature of the corresponding edge 13a of the back as will be seen from a comparison of the edge 11a at the right hand side of Figure 2 with the dotted line 12a. This cut gives the maximum elasticity in both direction and causes it to get more closely to the body, giving perfect freedom of movement without that bulkiness inherent in previous garments.

Because the two main portions 10A, 10B of the garment are cut to a peak 14 the four major seams 11, 12, 13, meet at the crotch, and an inserted crotch gusset is unnecessary, giving the crotch an easy curved shape. The crotch, however, is preferably reinforced on the inside by two substantially triangular pieces 22 of knitted fabric which are joined together to form an approximately rectangular piece lying with its corners one on each of the aforesaid four seams. The two sides or bases 23a of the triangular pieces which are seamed together at 23 are preferably slightly concave, so that when seamed the four sides of the resultant rectangle are distorted in a concave sense. Preferably this reinforcement when assembled in the garment has its wales extending substantially from front to rear of the garment, the wales of one

triangular piece of said reinforcement meeting those of the other piece at an angle which preferably varies along the seam 23 as is indicated in Figure 6.

- 5 The invention is hereinbefore described, and is illustrated, as applied to a knicker garment, but it may be applied to other garments of a kind fitting round the hips and abdomen, that is to say in a garment of this kind fullness or bagginess is obviated in the neighbourhood of the waist-line by inserting a panel within an aperture of corresponding but greater area or width cut in the said garment.
- 10 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—
- 20 1. A knicker garment or the like, having an inserted hip yoke which is fitted into a similarly or correspondingly shaped aperture, of less area or width, in the body of the garment.
- 25 2. A garment according to claim 1, of elastic fabric, preferably knitted fabric.
3. A garment according to claim 1 or claim 2, wherein the said yoke has upwardly divergent bottom edges.
- 30 4. A garment according to any of the preceding claims, wherein the yoke approximates in shape to a pentagon having a top edge near or coinciding with the waist-line of the garment and an opposed corner pointing centrally downward.
- 35 5. A garment according to claim 5, wherein the top edge, and the bottom edges of which converge to said corner or point, are longer than the two remaining edges.
- 40 6. A garment according to any of claims 3—5, wherein the yoke has upwardly convergent side edges.
- 45 7. A garment according to any of the preceding claims, wherein the top edge of the yoke is concave or V-shaped.
8. A garment according to claim 4 or claim 5, wherein the yoke, and the portions of the garment bordering it, are so

cut and shaped that before seaming or distortion the corresponding side edges of the yoke and aperture diverge upwardly.

9. A knicker garment or the like according to any of the preceding claims, characterised in that the crotch is formed without the insertion of a gusset.

10. A knicker garment or the like according to any of the preceding claims, consisting in the main of two portions of fabric, each of which forms one leg and the adjacent side of the body part of the garment, said portions being seamed together from the crotch down the inside of each leg and up the front and rear of the body-part.

11. A garment according to claim 10, wherein the four major seams meet at the crotch.

12. A garment according to claim 11, wherein each of the said portions of fabric is cut as regards its vertical edges to provide a projecting point or seat apex substantially as described with reference to Figure 2 of the accompanying drawings.

13. A knicker or like garment according to any of the preceding claims, having a reinforcement for the crotch constructed substantially as herein described with reference to Figures 4 and 5 of the accompanying drawings.

14. A garment of the kind fitting round the hips and abdomen, having, in the neighbourhood of the waist-line, a panel inserted within an aperture of corresponding but greater area or width in the garment, as and for the purpose specified.

15. A knicker garment, substantially as described herein with reference to Figures 1—5 of the accompanying drawings.

16. For a knicker garment according to any of the preceding claims, patterns substantially as described herein or substantially as shown in Figures 2 and 3 of the accompanying drawings.

Dated this 22nd day of November, 1933.

ERIC POTTER,
Chartered Patent Agent,
London and Nottingham.

[This Drawing is a reproduction of the Original on a reduced scale.]

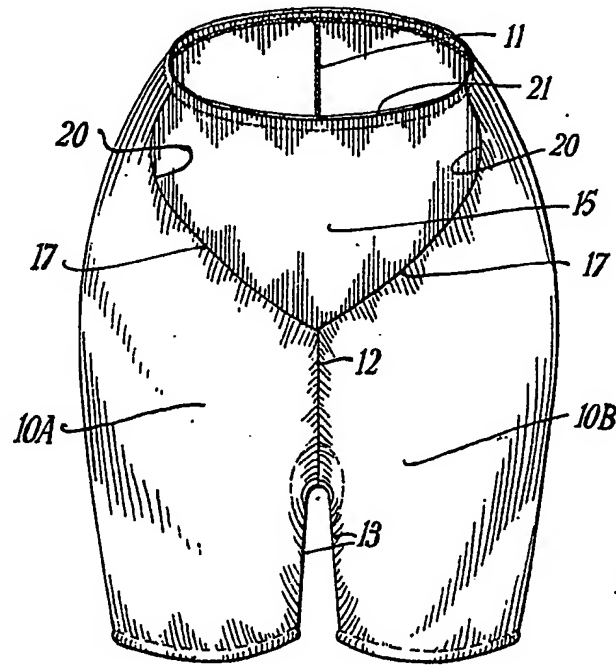


Fig. 1.

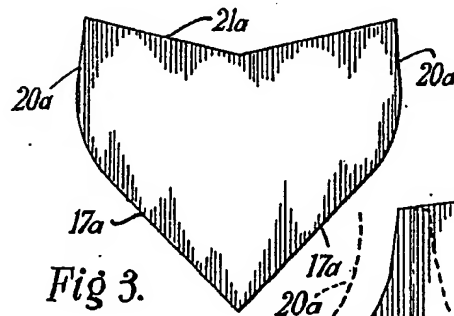


Fig. 3.

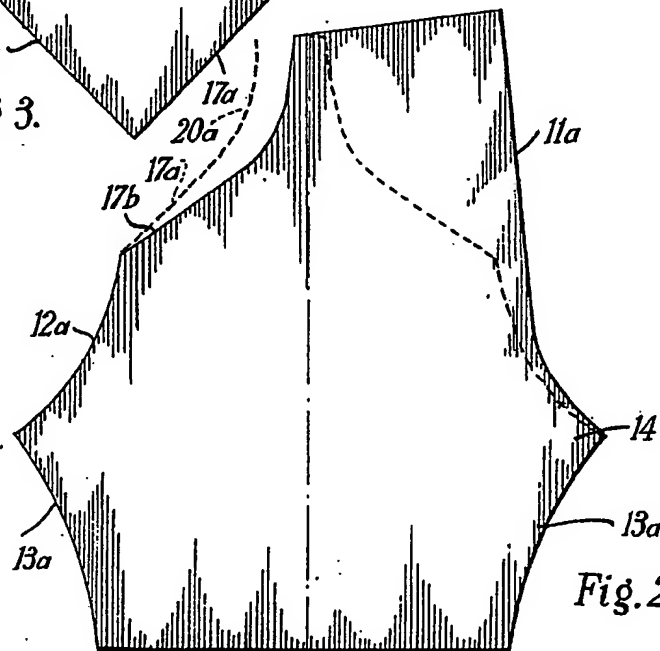


Fig. 2.

Fig. 4.

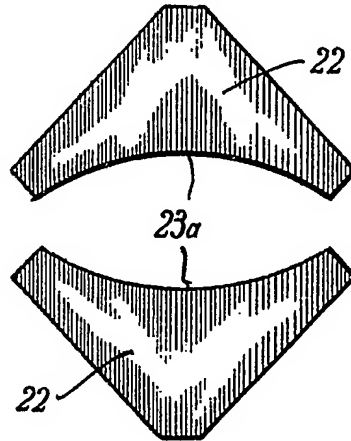
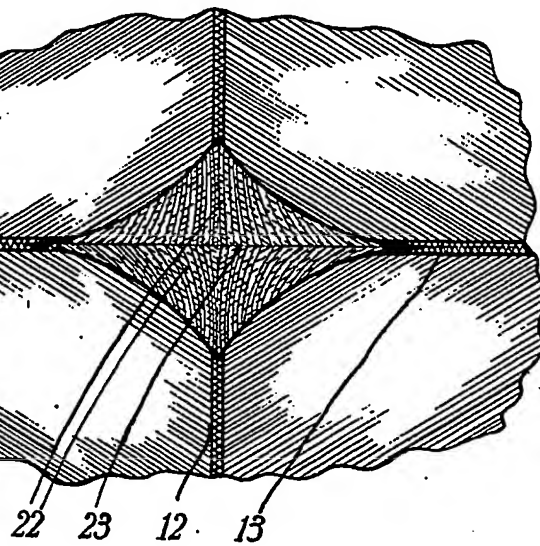


Fig. 5.



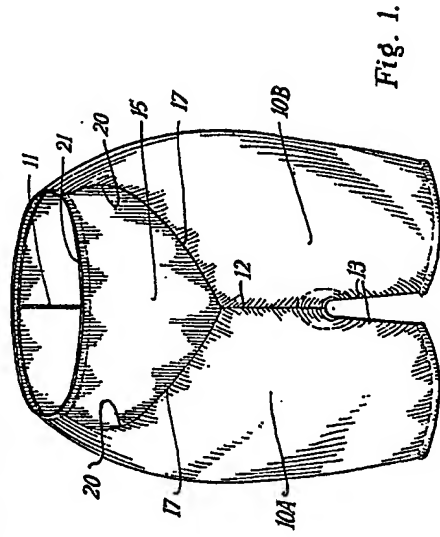


Fig. 1.

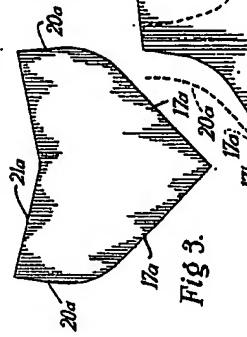


Fig. 3.

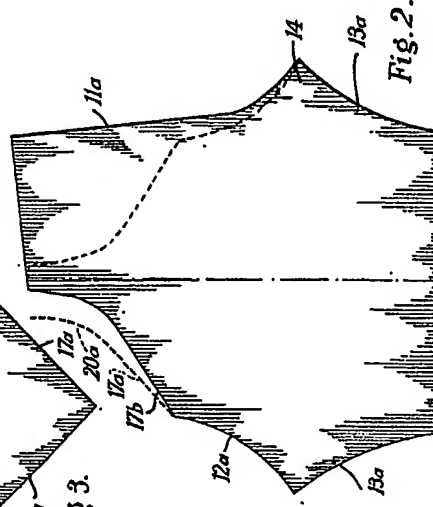


Fig. 2.

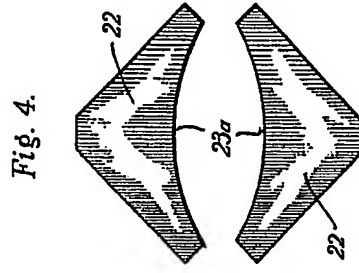


Fig. 4.

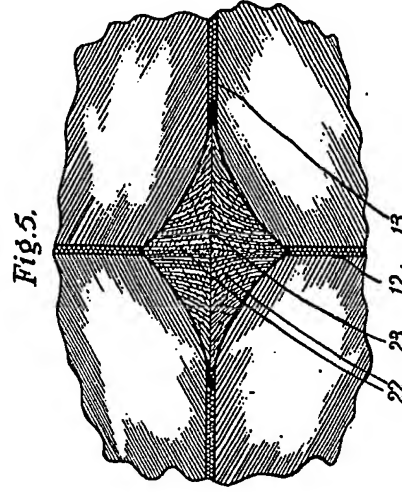


Fig. 5.

[This Drawing is a reproduction of the Original on a reduced scale.]